



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kusumoto et al. Art Unit : 2814
Serial No. : 09/903,339 Examiner : Theresa T. Doan
Filed : July 10, 2001
Title : METHOD FOR PRODUCING INSULATED GATE THIN FILM
SEMICONDUCTOR DEVICE

MAIL STOP AF

Commissioner for Patents
P.O. Box 1450
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REPLY TO ACTION OF JULY 16, 2003

In reply to the Final Office Action of July 16, 2003, Applicants submit the following remarks.

Claims 1-30 are pending with claims 1-24 being withdrawn from consideration due to a previous restriction requirement and claims 25-30 being examined.

Claims 25-27 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zhang et al. (5,508,209). Applicants respectfully traverse this rejection.

Claim 25 recites a method of manufacturing a semiconductor device that includes, among other steps, irradiating the amorphous semiconductor film with a second harmonic of a continuous wave laser comprising Nd to crystallize the amorphous semiconductor film. Applicants request reconsideration and withdrawal of the rejection because Zhang fails to describe or suggest a method for manufacturing a semiconductor device using a second harmonic of a continuous wave laser comprising Nd. Instead, Zhang describes that a pulse laser is preferred, because a continuous oscillated laser is irradiated for an excessively long duration that can expand the object by heating and cause film peeling. After stating that a pulse laser is preferred, Zhang then proceeds to provide examples that can be used as the pulse laser. Furthermore, one of the examples that can be used as the pulse laser is a second harmonic of an infrared laser. Thus, contrary to the assertion in Office Action, Zhang (as quoted below) does not describe or suggest using a second harmonic of a continuous wave laser comprising Nd.

The laser does not need to be limited to an excimer laser, and other lasers are also usable. However, the use of a pulsed laser is preferred, because a continuous

oscillated laser is irradiated for an excessively long duration, thereby to expand the object by heating to cause film peeling.

An infrared laser such as an Nd:YAG laser (preferably, a Q-switch pulse oscillated laser), a visible light such as a second harmonic of the infrared laser, or various kinds of ultraviolet (UV) laser such as a KrF, a XeCl, an ArF, or the like excimer laser can be used as the pulse laser.

Zhang, col. 9, lines 3-12.

In addressing the Applicants' response to the first non-final Office Action, the Final Office Action states that "a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments." Final Office Action, pg. 4, para. 5. However, Zhang does not reasonably suggest using a second harmonic of a continuous wave laser comprising Nd. Zhang summarily dismisses a continuous oscillated laser as a non-preferred embodiment and then provides examples of only the preferred embodiment, namely the pulse laser. Moreover, even in the examples of the preferred embodiment (i.e., the pulse laser), Zhang still does not suggest using a second harmonic of a continuous wave. Instead, even in discussing the pulse laser, Zhang only discloses a second harmonic of an infrared laser, and not of a continuous wave laser. Thus, Zhang does not reasonably suggest using a second harmonic of a continuous wave laser comprising Nd in the preferred embodiment or in the non-preferred embodiment.

For at least these reasons, Applicants respectfully request withdrawal of the rejection of claim 25 and its dependent claims 26 and 27.

Claims 25-30 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17-21, 22-27, 34-43, 48-56, and 61-80 of Kusumoto et al. (6,204,099). Applicants respectfully traverse this rejection.

Independent claims 25 and 28 recite a method of manufacturing a semiconductor device that includes, among other steps, patterning the crystallized semiconductor film to form an active layer including at least a channel formation region. Applicants respectfully request removal of the double patenting rejection because the relied upon claims of Kusumoto do not recite

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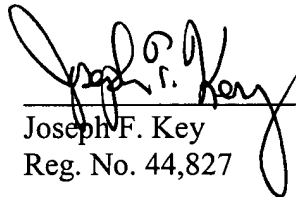
patterning the crystallized semiconductor film to form an active layer including at least a channel formation region.

For at least this reason, Applicants request withdrawal of the of the obviousness-type double patenting rejection of claims 25 and 28 and their dependent claims 26, 27, 29, and 30.

Enclosed is a \$420.00 check for the Petition for Extension of Time fee. During prosecution of this case, please apply any deficiencies or credits to deposit account 06-1050.

Respectfully submitted,

Date: 12/16/2003



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